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**NOTICE OF ALLOWANCE AND FEE(S) DUE**

21171 7590 09/07/2004

STAAS & HALSEY LLP  
SUITE 700  
1201 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

EXAMINER

NOBAHAR, ABDULHAKIM

ART UNIT

PAPER NUMBER

2132

DATE MAILED: 09/07/2004

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/327,477	06/08/1999	YASUTSUGU KURODA	826.1547/JDH	5479

TITLE OF INVENTION: ELECTRONIC DATA STORAGE APPARATUS WITH KEY MANAGEMENT FUNCTION AND ELECTRONIC DATA STORAGE METHOD

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$0	\$0	\$0	12/07/2004

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

**HOW TO REPLY TO THIS NOTICE:**

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

## PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail**

**Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
or Fax (703) 746-4000**

**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

21171 7590 09/07/2004

**STAAS & HALSEY LLP  
SUITE 700  
1201 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005**

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

### Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (703) 746-4000, on the date indicated below.

	(Depositor's name)
	(Signature)
	(Date)

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nonprovisional	NO	\$0	\$0	\$0	12/07/2004

EXAMINER	ART UNIT	CLASS-SUBCLASS
NOBAHAR, ABDULHAKIM	2132	713-193000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).	2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
<input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached. <input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.	1 _____ 2 _____ 3 _____

### 3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent):  Individual  Corporation or other private group entity  Government

4a. The following fee(s) are enclosed:

- Issue Fee
- Publication Fee (No small entity discount permitted)
- Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s):

- A check in the amount of the fee(s) is enclosed.
- Payment by credit card. Form PTO-2038 is attached.
- The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

### 5. Change in Entity Status (from status indicated above)

a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.

b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above. NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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			NOBAHAR, ABDULHAKIM	
		ART UNIT		PAPER NUMBER
		2132		

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## Determination of Patent Term Extension under 35 U.S.C. 154 (b) (application filed after June 7, 1995 but prior to May 29, 2000)

The Patent Term Extension is 0 day(s). Any patent to issue from the above-identified application will include an indication of the 0 day extension on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Extension is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (703) 305-1383. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.



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09/327,477	06/08/1999	YASUTSUGU KURODA	826.1547/JDH	5479
21171	7590	09/07/2004	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			NOBAHAR, ABDULHAKIM	
			ART UNIT	PAPER NUMBER
			2132	

DATE MAILED: 09/07/2004

## Notice of Fee Increase on October 1, 2004

If a reply to a "Notice of Allowance and Fee(s) Due" is filed in the Office on or after October 1, 2004, then the amount due will be higher than that set forth in the "Notice of Allowance and Fee(s) Due" because an increase in fees effective on October 1, 2004 is anticipated. See Revision of Patent Fees for Fiscal Year 2005; Proposed Rule, 69 Fed. Reg. 25861, 25863, 25864 (May 10, 2004).

The current fee schedule is accessible from WEB site (<http://www.uspto.gov/main/howtofees.htm>).

If the fee paid is the amount shown on the "Notice of Allowance and Fee(s) Due" but not the correct amount in view of the fee increase, a "Notice of Pay Balance of Issue Fee" will be mailed to applicant. In order to avoid processing delays associated with mailing of a "Notice of Pay Balance of Issue Fee," if the response to the Notice of Allowance is to be filed on or after October 1, 2004 (or mailed with a certificate of mailing on or after October 1, 2004), the issue fee paid should be the fee that is required at the time the fee is paid. See Manual of Patent Examining Procedure (MPEP), Section 1306 (Eighth Edition, Rev. 2, May 2004). If the issue fee was previously paid, and the response to the "Notice of Allowance and Fee(s) Due" includes a request to apply a previously-paid issue fee to the issue fee now due, then the difference between the issue fee amount at the time the response is filed and the previously-paid issue fee should be paid. See MPEP Section 1308.01.

Effective October 1, 2004, 37 CFR 1.18 is proposed to be amended by revising paragraphs (a) through (c) to read as set forth below. As stated above, the final fee may be a different amount, and applicant should check the WEB site given above when paying the fee.

### Section 1.18 Patent post allowance (including issue) fees.

(a) Issue fee for issuing each original or reissue patent, except a design or plant patent:

By a small entity (Sec. 1.27(a))..... \$670.00  
By other than a small entity..... \$1,340.00

(b) Issue fee for issuing a design patent:

By a small entity (Sec. 1.27(a))..... \$245.00  
By other than a small entity..... \$490.00

(c) Issue fee for issuing a plant patent:

By a small entity (Sec. 1.27(a))..... \$325.00  
By other than a small entity..... \$650.00

Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/327,477	KURODA ET AL.	
	Examiner Abdulhakim Nobahar	Art Unit 2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 14 July 2004.
2.  The allowed claim(s) is/are 1-10, 12-19 and 22-26.
3.  The drawings filed on 08 June 1999 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All      b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of
 Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

- |  |  |
|--|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>19</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                         | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|  | 9. <input checked="" type="checkbox"/> Other <u>MODIFIED</u> <u>PTO-1449</u>           |

***Allowable Subject Matter***

1. This communication is in response to the information disclosure statement (IDS) received on July 14, 2004.
2. Claims 1-10, 12-19 and 22-26 are allowed.
3. The following is an examiner's statement of reasons for allowance:

The above-mentioned IDS lists an European office action for application No. 99304647.3 that introduces the following references:

- 1- Adamouski, F J, 'Encryption technology other than PKI', October 12, 1998.
- 2- Mittra, S, 'Iolus: A framework for scalable secure multitasking', September 14, 1997.
- 3- Menezes, Oorschot, Vanstone, 'Handbook of applied cryptography', CRC press, 1997, pages 570-572.
- 4- EP 0 715 241 A2, Saito et al, June 05, 1996.

The primary reasons for the allowance of the independent claims 1, 15-17 and 22-24 are the inclusion of the following limitations that are not found in the prior art listed above and they are uniquely distinct features. Adamouski discloses a control structure in a cryptographic system usable for a large group of individuals. In this

control structure users are allowed only to perform cryptographic operations based on rights and permissions granted to the group they are belonged. Mittra teaches a scalable secure multicasting communication that provides efficient transmission of data to a plurality of recipients. Mittra describes a method for securely replacing and updating the group and individual keys when members of the group(s) are leaving or joining or when the usage time period of a key is expired. Menezes et al teaches a key management method involving multiple domains with trusted relationships. The domains establish trusted relationships among each other by sharing secret keys and acquire the shared keys through a variety of authenticated techniques. Saito et al discloses a data copyright management apparatus attached to a user terminal. Saito teaches that the disclosed copyright management system decrypts the received encrypted data for display and re-encrypts the data so that no unauthorized individual can use it. These arts, singularly or in combination, fail to anticipate or render the following limitations:

"Claim 1: a key management unit managing an individual key unique to said electronic data storage apparatus to which said management unit belongs, and a common key shared with other electronic data storage apparatuses of the group, selecting the individual key when performing an encryption process on an electronic document stored in said electronic data storage apparatus to which said management unit belongs, and selecting the common key when performing the encryption process or

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when verifying the electronic document transmitted to or received from another electronic data storage apparatus; and

an encryption unit performing the encryption process using the key selected by said key management unit.”

“Claim 15: re-encrypting, by a first electronic data storage apparatus in one hierarchical level of the hierarchical structure, a document encrypted using an individual key which is unique to and stored in the apparatus, using a higher order group key corresponding to the hierarchical level, and transmitting the re-encrypted document to an electronic data storage and management apparatus for managing the electronic data storage apparatuses in a group at one hierarchical level lower;

verifying, by said electronic data storage and management apparatus for managing a lower group of electronic data storage apparatuses, the received document using the higher order group key, re-encrypting the received document using the lower order group key corresponding to one hierarchical level lower if the received documents is correct as a result of the verification, and transmitting the received document to a second electronic data storage apparatus in the group at one level lower; and

verifying, by the second electronic data storage apparatus, the received documents using the lower order group key, re-encrypting the received document using an individual key unique to the second electronic data storage apparatus if the electronic document is correct as a result of the verification, and storing the re-encrypted received document.”

"Claim 16: re-encrypting, by a first electronic data storage apparatus in one hierarchical level of the hierarchical structure, a document encrypted using an individual key which is unique to and stored in the apparatus, using a lower order group key corresponding to the hierarchical level, and transmitting the re-encrypted document to a lower order group electronic data storage and management apparatus for managing the electronic data storage apparatuses in the group;

verifying, by said electronic data storage and management apparatus for managing a lower group of electronic data storage apparatuses, the received document using the lower order group key, re-encrypting the received document using the higher order group key corresponding to one hierarchical level higher if the electronic document is correct as a result of the verification, and transmitting the document to a receiving electronic data storage apparatus in the group at one level higher; and

verifying, by the receiving second electronic data storage apparatus, the received document using the lower order group key, re-encrypting the received document using an individual key unique to the second electronic data storage apparatus if the electronic document is correct as a result of the verification, and storing the re-encrypted received document."

"Claims 17 and 23: storing in a storage unit an individual key unique to an electronic data storage apparatus for storing an electronic document and a common key shared with another electronic data storage apparatus;

selecting the common key stored in the storage unit as a key to be used when communicating the electronic document;

selecting the individual key to be used when performing an encryption process on the document to be stored in said electronic data storage apparatus; and

performing the communication process or encryption process using the selected key.”

“Claim 22: key management means for managing an individual key unique to an electronic data storage apparatus to which said key management means belongs, and a common key shared with other electronic data storage apparatuses, selecting the individual key when performing an encryption process on the electronic document stored in the electronic data storage apparatus to which said means belongs, and selecting the common key when performing an encryption process or when verifying the electronic document transmitted to or received from another electronic data storage apparatus; and

encryption means performing the encryption process using the key selected by said key management unit.”

“Claim 24: storing a local encryption key for the local environment locally and storing a global key for the global environment;

receiving a document to be transmitted along with an environment indicator indicating the environment of the document transmission;

selecting one of the local and global encryption keys responsive to the indicator; encrypting the document with the selected one of the keys; and transmitting the encrypted document, and wherein the local key is used for data storage in a local data storage unit only by a local data storage system that stores the local key.

4. The dependent claims 2-10, 12-14, 18,19, 25 and 26 are allowed because they were originally found to include a unique feature not found in the closest abovementioned art.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abdulhakim Nobahar whose telephone number is 703-305-8074. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 703-305-1830. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

*a.n.*

Abdulhakim Nobahar, Examiner, Art Unit 2132

September 3, 2004

*Gilberto Barron*

GILBERTO BARRON  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100